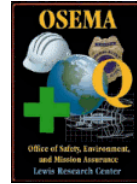




OSEMA Newsletter

Glenn Research Center



Issue 2

April- June 1999

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CALENDAR OF EVENTS

Date: May 19, 1999

Time: 9 - 10 a.m.- Admin. Auditorium

Description: Glenn Safety Office Forum

Office of Safety, Environmental, and Mission Assurance

I have one of the unusual jobs in OSEMA. I am currently on detail to the Environmental Protection Agency (EPA). Developing and conducting outreach programs. This includes working with groups ranging from senators and their staff to students in elementary schools



Daniel Watson

Last spring I received a request from Pine Elementary School in North Olmsted, to teach a class of fifth grade students about the environment and how people monitor its quality. We organized a field trip to Huntington Beach for approximately one hundred students and their teachers. Volunteers from the Glenn Environmental Management Office, the U.S. EPA's Cleveland Office, and the Bay Village Fire Department, guided students and teachers through a day filled with hands-on activities using real monitoring and clean-up equipment in real life scenarios.

The students collected water samples and analyzed them for contaminants; learned about cleaning up oil spills on water using sorbent pads and booms; and learned about the area's varied ecology and the causes and affects of erosion along Lake Erie.

The activity the students enjoyed the most was the collection and identification of "critters" from the creek. With the help of Phil Gehring of the U.S. EPA and Art Gedeon of GRC, the students collected benthic macro invertebrates from the stream bottom. They learned how to identify them and how the type and abundance are an indicator of water quality. This was a hard day's work for the volunteers, but the feeling of satisfaction from seeing how excited and happy the students were made it worthwhile. The event was covered in the Cleveland Plain Dealer and local newspapers. Educators have told me as far away as Illinois that this was a landmark environmental education event.

A few days after the Pine School event, Boy Scouts from Troop 53 of North Olmsted asked if I could do a similar activity with members of their troop as part of the requirements for their environmental merit badge. During August 1998, I met with the troop and their leaders for an evening at Huntington Park. As fate would have it, high winds came out of the north and stirred up 3 to 4 foot waves on the lake, a hailstorm started and turned to heavy rain. The scouts did not want to postpone the event, but to continue under real life conditions. The scouts fought the elements and secured the boom across the mouth of the creek with steel rods pounded into the ground. The high winds caught the boom and bent the steel rods. After the boom was re-anchored we spilled the sawdust into the creek. As we did this the wind picked up, forcing the sawdust to float upstream instead of downstream and not caught by the boom. Because so many things went wrong I thought the scouts would be disappointed. However, they were not. Instead, they were happy and excited that they had participated in a real life scenario. They learned about safety gear, how to sample water, and deployed a large boom to clean up a simulated oil spill of sawdust.

PROJECT ASSURANCE OFFICE

The Enhanced Integrated Supportability Analysis and Cost System (ISACS+)



The Integrated Supportability Analysis and Cost System (ISACS) was originally developed by General Electric Aircraft Engines (GEAE) as a simulation model for performing operation and support analysis for the U.S. Air Force F-16 engine program. ISACS+ will be a distributed client/server system for performing operation and support, life cycle cost, and reliability/maintainability analyses of military and commercial aircraft systems. The ISACS software was developed to run on a UNIX. ISACS+ has been rewritten to operate in a Windows NT/95 environment, and is being enhanced to include commercial air fleet applications and a life cycle cost analysis feature. This work is being performed under a Space Act Agreement between GEAE and NASA Glenn Research Center (GRC).

While GEAE provides consulting support to the project, Glenn's Propulsion Systems Analysis Office is responsible for the software development and has contracted with Technology Support Corporation (TSC) of Cary, North Carolina to perform this task. This valuable Aeronautics SMA activity is funded by NASA Headquarters, Code Q.

Risk mitigation considerations should begin during the conceptual or preliminary design phases, since this is when materials, complexity, durability, and accessibility of hardware are defined. Changes made during this phase are relatively inexpensive, since large investments in equipment, hardware, and fabrication have not yet been incurred. Goals for things such as reliability and maintainability, acquisition cost, and performance often conflict or compete with one another, requiring that on-going risk trade studies be conducted to ensure an optimal design solution which best satisfies all customer requirements. ISACS+ will support these studies by relating parameters such as performance, acquisition cost, and operation cost thus allowing the system design to meet the specified mission requirements at a minimum life cycle cost.

Both commercial and military system developers know that there is a competitive advantage to improving customer satisfaction through improved reliability and supportability at minimum cost. ISACS+ will bring these disciplines into a common and consistent database and analysis. It provides information for maintenance planners to specify the most economical maintenance structure, including information to make repair/buy/storage/decisions on individual parts and to aid in forecasting labor utilization, support equipment, and consumables required at each level of maintenance. ISACS+ is also capable of providing necessary information to formulate risk management and warranty plans by identifying high-risk areas, predicting failure rates, and repair intervals.

When the initial version of the software is completed in June 1999, ISACS+ will be placed into the public domain and available for anyone to use. Although this version will be adapted for use on military and commercial aircraft systems, the software could be modified and used for modeling virtually any other type of system. NASA GRC's plans are to continue work on user documentation and additional enhancements to the software.

QUALITY MANAGEMENT OFFICE

Quality and Safety Achievement Recognition (QASAR) Award

This quarter's newsletter for the QMO will continue to focus on the QASAR awards and will discuss the award categories in detail.

There are four categories of QASAR awards. Each category is designed to recognize a large identifiable sector of the overall NASA work force that has significant independence and has the capacity to influence quality and safety in our environment.

The first category is:

“Most significant safety and mission assurance (SMA) contribution from within the NASA SMA organization”.

This category captures the “traditional” R&QA function that now usually includes institutional safety and the environmental functions. At Glenn this would include all in the 0500 directorate including the project management, program management, institutional safety, environmental health, and security. Other quality organizations outside of 0500 would be covered under another category.

The second category is:

“Most significant safety or quality product improvement, service improvement, or initiative from a NASA employee external to the SMA organization”.

The second category assures that any Glenn employee can be recognized for meaningful contributions to the quality and safety is everyone's task and not just an R&QA function. This category emphasizes that quality and safety are everyone's task and not just an R&QA function. Part of our efforts is to make certain that someone will always be recognized in this category.

Any NASA or NASA contractor employee may nominate an eligible individual to receive a QASAR Award.

The third category is:

“Most significant safety or quality product improvement, service improvement, or initiative from a government (non-NASA) employee”.

NASA works hand in hand with other governmental agencies. Our ability to recognize these fellow government employees allows us to further our commitment across the government to proactively advance safety and quality. During last year we were very successful in making these awards, and in general receiving genuine thanks from these agencies and employees for our positive activity.

The final category is:

“Most significant safety or quality product improvement, service improvement, or initiative from a NASA prime or sub contractor employee.

Non-government employees are expected to make safety and quality their top priorities. QASAR can now identify these deserving people and single them out in front of their managers as doers in our modern contracting process. The contractor personnel have all the benefits as NASA personnel in receiving this recognition and will also have the benefit of possible further recognition by their own companies.

The award nomination should be no more than one page in length. Winners also become available for the best of the best yearly award given by the NASA Administrator. See the OSEMA Homepage <http://www-osma.lerc.nasa.gov/> for information on QASAR nomination process.

GLENN SAFETY OFFICE

Performance Evaluation Profile Implementation at GRC

The implementation of the Agency Safety Initiative (ASI) will require a method to validate that each Center is meeting the Agency Safety Goals. These goals are outlined for each Core Program Requirement (CPR). These include:

1. Management Commitment & Employee Involvement
2. Worksite Hazard Analysis
3. Hazard Prevention & Control
4. Safety & Health Training

A tool was developed at JSC to fulfill the self-evaluation requirements contained within ASI and to meet the regulatory requirements of by the Occupational Safety and Health Administration (OSHA). This tool is the Performance Evaluation Profile (PEP). The PEP is designed to be a "second party" assessment tool of the safety program at each Center. A survey will be made available to supervisors and employees, via the Internet, to determine their knowledge of the safety program and the ASI at the Center. This survey follows the four primary CPR that are outlined in the ASI.

PEP provides the means of self-evaluation of Occupational Safety and Health Programs at the Center Level. The PEP is divided into three areas:

1. Management Survey
2. Employee Survey
3. Facility Survey

The Management Survey analyzes the manager's support of the Center's Safety Policy and the program outlined in the Glenn Safety and Environmental Manuals.

The Employee Survey analyzes how safety and health programs are actually implemented in the workplace. Basically, are the programs, procedures and guidance contained in the Glenn Safety and Environmental Manuals followed? Are the requirements contained in Safety Permits in compliance before operations begin?

The facility survey covers the physical work environment. This includes compliance with regulatory requirements at the facilities (emergency egress, storage of chemicals, etc.).

Other information included in the survey is the historical (statistical) safety data. This includes:

- A. Mishap Rates
- B. Mishap Severity Rates
- C. Mishap Property Damage Rates
- D. Hazard Abatement
- E. Close Calls

The goal of PEP is to determine the gap that exists between the Glenn Safety Program's "intended" program and the "actual" programs utilized by employees. This information will be used to develop an improvement plan in order to "close the gap."

The Center will begin the PEP survey during the month of May 1999. The Glenn Safety Office will provide more information to employees in the next few weeks. Your cooperation for the success of the implementation of the Agency Safety Initiative and the Performance Evaluation Profile is appreciated. If you have any questions or comments, please contact Mr. Manuel Dominguez at 3-6735.

ENVIRONMENTAL MANAGEMENT OFFICE

Facilities Asbestos Survey

What is the survey?

The Environmental Management Office (EMO) is conducting a labwide facilities asbestos survey. This survey is being conducted in both accessible work areas (offices, hallways, etc.) and typically non-accessible areas (above the ceilings, in labs and research facilities and outside piping and structures). To eliminate redundant sampling, the survey will utilize existing data whenever possible. The survey is divided into three phases:

- Phase 1:** Phase one is the survey of the building for materials that may or may not contain asbestos. The areas are divided into what are called homogeneous areas. A homogeneous area is a system of suspect asbestos containing material that is uniform in color and texture.
- Phase 2:** Phase two is the sampling and analysis of homogeneous areas that have been identified as possible asbestos containing materials.
- Phase 3:** Phase three is the labeling of piping and duct systems as asbestos or non-asbestos containing.

Why conduct this survey?

The first reason is to provide information to the building occupants about the location and condition of asbestos containing material within their work areas. This complies with the Occupational Safety and Health Administration's asbestos standard requirements on communication of hazards and recordkeeping. To make this information easily accessible labwide a web site is being created. An example of the web site display screen is shown in the figure below. In addition, facility design and maintenance engineers will have access to more extensive reports and detailed information than what will be available on the web site.

#	Floor	Room/Area	Compass Location	General Location	Inspection Date	ACBM	LEAD	Room Comments
1	1st	100	Northeast	Left	5/11/98	Y	Y	All pipe is fiberglass insulated.
2	1st	104	Southeast	Left	5/11/98	Y	Y	All pipe is fiberglass insulated.
3	1st	110	North	Center	5/11/98	Y	Y	Pipe insulation is mixture of asbestos and fiberglass.
4	1st	112	Northeast	Left	5/11/98	Y	Y	Restricted area. Paint may not be ignored.
5	1st	113	Southeast	Center	5/11/98	Y	Y	All piping marked asbestos free.
6	1st	114	Southeast	Center	5/11/98	Y	Y	One insulated pipe marked asbestos free. Pipes in
7	1st	117	East	Back	9/2/98	Y	Y	N/A
8	1st	125	South	Center	5/12/98	Y	Y	N/A
9	1st	125A	South	Center	5/12/98	Y	Y	Floor tiles, base board mastic, and wall paint marked
10	1st	126	South	Back	6/2/98	Y	Y	N/A
11	1st	130	North	Center	5/20/98	Y	Y	N/A
12	1st	130A	North	Center	5/20/98	Y	Y	N/A

The second reason to conduct this survey is that the survey information will reduce response time and save project or maintenance funds by greatly reducing or eliminating the asbestos sampling requirements during design or maintenance. Currently, Phase 1 and Phase 2 of the survey has been completed in twenty-three buildings on the lab.

How do I access this information?

The web site is currently at <http://asbestos.grc.nasa.gov/hazmat/index.html> and is available for labwide use. As each building survey is completed, training will be provided to instruct employees how to access the web site and determine where asbestos, if any, is located in their work area.

In the mean time, the EMO can be contacted for access to the survey data. The EMO contacts are Christine Block at 3-3105, Jeff Wagner (3-3770), and Bill Youngblut (3-8822).

What is the future plans for the survey?

During FY99 the Facilities Survey will begin to incorporate data on the location of lead, cadmium, and chromium into the existing database and web site. This information will also be available labwide through the web site address listed above.

SECURITY MANAGEMENT OFFICE

Computer-Based TrainingWeb-Based Training

As the name implies, computer based training (CBT) is training delivered via a computer, but not necessarily about computers or computer technology. Just a few years ago, CBT was primarily linear and text based, nothing more than electronic pages to be read one at a time. Modern CBT has evolved into interactive, instructional systems that fully utilize still graphics, photographs, animation, sound, and motion video. This “open university” idea has worked well for several years and the technology has helped remove barriers to education and training.

Web-Based Training (WBT) is an ideal solution to the aforementioned problems, and will inevitably transform CBT into a timely universally accessible training system. The quality of the end product and the presentation of materials are similar. WBT provides easy delivery of training to users, multi-platform capability, easier updating of content, access is controllable and auditing of use is possible, options to link with other training systems or web pages, and lower delivery costs than for traditional methods.

An example of WBT is the Annual Security Awareness briefing located on the Security Management Office’s homepage, found at www.gumby.nasa.gov. The briefing was initially developed in a PowerPoint presentation and adapted for use in WBT. The briefing has gone through some relatively easy changes to enhance its presentation. In the first three weeks emerging from its infancy, over 25 percent of the Center’s population have completed the mandatory briefing. With any new program we have received both favorable and unfavorable comments, but more so the helpful suggestions for future endeavors. Just a reminder, all NASA employees and service contractors must complete the briefing by June 30th. If you are unable to access a computer, a paper copy is available by contacting Charles Coffman at 3-3185.

The attractiveness of WBT to achieve the stated goals of the training program is important with today’s limited resources. Today, there is still the need for some classroom training on special subjects, but with each day’s new technology the option for CBT and WBT is rapidly gaining popularity.

